

Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims

1. (Currently Amended) A system to determine a most likely position of a moving inanimate object, said system comprising:

a plurality of sensors each providing a location of the moving inanimate object with an associated sensor uncertainty distribution, wherein for each sensor, the associated sensor uncertainty distribution is dependent on one or more performance characteristics for the sensor; and

a data processor configured to read location data from two or more sensors, wherein said data processor combines the location data and the associated sensor uncertainty distributions from said two or more sensors and generates a value indicative of the most likely position of the moving inanimate object, and further includes a set of fuzzy logic rules applied to the one or more performance characteristics of the sensors.

2-33. (Canceled)

34. (New) A system to determine a most likely position of a moving inanimate object, said system comprising:

a plurality of sensors each providing a location of the moving inanimate object with an associated sensor uncertainty distribution, wherein for each sensor, the associated sensor uncertainty distribution is dependent on one or more performance characteristics for the sensor; and

a data processor configured to read location data from two or more sensors, wherein said data processor combines the location data and the associated sensor uncertainty distributions from said two or more sensors and generates a value indicative of the most likely position of the moving inanimate object, and further includes a set of

fuzzy logic rules applied to one or more parameters that affect the one or more performance characteristics and/or the sensor uncertainty distribution.

35. (New) A system to determine a most likely position of a moving inanimate object, said system comprising:

a plurality of sensors each providing a location of the moving inanimate object with an associated sensor uncertainty distribution, wherein for each sensor, the associated sensor uncertainty distribution is dependent on one or more performance characteristics for the sensor; and

a data processor configured to read location data from two or more sensors, wherein said data processor combines the location data and the associated sensor uncertainty distributions from said two or more sensors and generates a value indicative of the most likely position of the moving inanimate object, and further including a neural network applied to the one or more performance characteristics of the sensors

36. (New) A system to determine a most likely position of a moving inanimate object, said system comprising:

a plurality of sensors each providing a location of the moving inanimate object with an associated sensor uncertainty distribution, wherein for each sensor, the associated sensor uncertainty distribution is dependent on one or more performance characteristics for the sensor;

a data processor configured to read location data from two or more sensors, wherein said data processor combines the location data and the associated sensor uncertainty distributions from said two or more sensors and generates a value indicative of the most likely position of the moving inanimate object, and further including a neural network applied to one or more parameters that affect the one or more performance characteristics and/or the sensor uncertainty distribution

37. (New) A system to determine a most likely position of a moving inanimate object, said system comprising:

a plurality of sensors each providing a location of the moving inanimate object with an associated sensor uncertainty distribution; and

a data processor configured to read location data from two or more sensors, wherein said data processor combines the location data and the associated sensor uncertainty distributions from said two or more sensors and generates a value indicative of the most likely position of the moving inanimate object, and further including a neural network trained for determining a sensor reliability measure.

38. (New) A system to determine a most likely position of a moving inanimate object, said system comprising:

a plurality of sensors each providing a location of the moving inanimate object with an associated sensor uncertainty distribution; and

a data processor configured to read location data from two or more sensors, wherein said data processor combines the location data and the associated sensor uncertainty distributions from said two or more sensors and generates a value indicative of the most likely position of the moving inanimate object, and further including a neural network trained for determining a realization measure indicative of the mean of the sensor reliability measure.

39. (New) A system to determine a most likely position of a moving inanimate object, said system comprising:

a plurality of sensors each providing a location of the moving inanimate object with an associated sensor uncertainty distribution;

a data processor configured to read location data from two or more sensors, wherein said data processor combines the location data and the associated sensor uncertainty distributions from said two or more sensors and generates a value indicative of the most likely position of the moving inanimate object;

wherein the data processor is configured to determine a probability distribution for a position of the object based on the location data and the associated sensor uncertainty distribution from each of the at least two sensors, and wherein each

probability distribution for the position of the object is segmented into a plurality of sub-ranges, and wherein parameters affecting sensor uncertainties are manipulated by a conditional probability rule to determine a posteriori conditional probability distribution for each sub-range.